U.S. DEPARTMENT OF COMMERCE
NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY
(formerly National Bureau of Standadrs-NBS)
OFFICE OF STANDARDS SERVICES

COMMERCIAL STANDARD CS257-63

TFE-FLUOROCARBON (POLYTETRAFLUOROETHYLENE) RESIN MOLDED BASIC SHAPES

Commercial Standard CS257-63, TFE-Fluorocarbon (Polytetrafluoroethylene) Resin Molded Basic Shapes was withdrawn by the U.S. Department of Commerce on January 20, 1982.

* * * * * * * * * *

The following standard was used to replace CS257-63: ASTM D3294, Standard Specification for PTFE Resin Molded Sheet and Molded Basic Shapes.

This standard is under the jurisdiction of Committee D20 on Plastics and is the direct responsibility of Subcommittee D20.15 on Thermoplastic Materials D20.l5.12, Fluoropolymers.

To obtain copies and assistance for additional information and/or committee and subcommittees sources, contact:

American Society for Testing and Materials (ASTM)
100 Barr Harbor Drive
West Conshohocken, Pennsylvania 19428-2959, USA
Telephone: (610) 832-9500/-9585; Fax: (610) 832-9555
Internet: http://www.astm.org

Technical Committee D20 Staff Manager
Telephone: (610) 832-9721; Committees Fax: (610) 832-9666

CS257-63
File

possible in terms of quality, quantity, timeliness and efficiency.

Include the principal costs involved for achieving work plan under Cooperative Agreement by completing Part III—the Budget Information Section of the Request for Application.

Provide cost sharing plan information in terms of methodology and format for billing the cost of management and technical assistance to clients.

Total project cost will be evaluated in terms of:

—Clear explanations of all expenditures proposed, and

—The extent to which the applicant can leverage federal program funds and operate with economy and efficiency.

In conclusion, the applicant's schedule for start of BDC operation should be included in Part Two. Part Two will be known as the applicant's plan of operation and will be incorporated into the Cooperative Agreement award.

A detailed justification all proposed costs is required for Part Four and each item must be fully explained.

The failure to supply information in any given category of the criteria will result in the application being considered non-responsive and consequently, dropped from competition.

All information submitted is subject to verification by MBDA.

E. Disposition of Proposals

Notification of awards will be made by the Grants Officer. Organizations whose proposals are unsuccessful will be advised by the Regional Director.

F. Proposal Instructions and Forms

Questions concerning the preceding information and copies of application forms can be obtained at the above address.

Nothing in this solicitation shall be construed as committing MBDA to divide available funds among all qualified applicants. The program is subject to OMB Circular A-95 requirements.

G. A Pre-Application conference to assist all interested applicants will be held at the Federal Building—536 South Clark Street—Room 638 A & B—Chicago Illinois on February 8, 1982 at 10:00 a.m.

(11.800 Minority Business Development (Catalog of Federal Domestic Assistance))

Dated: January 12, 1982.

Stanley W. Tate,

Regional Director.

[FR Doc. 82-1942 Filed 1-19-82; 8:45 am]

BILLING CODE 3510-21-M

National Bureau of Standards

Status Report on Voluntary Product Standards

AGENCY: National Bureau of Standards; Commerce.

ACTION: Maintenance, retention, replacement, and withdrawal of certain voluntary product standards

On August 19, 1980, the Department of Commerce (Department) announced in the Federal Register (45 FR 55250-2) the status of 80 documents classified as Voluntary Product Standards. The announcement was made in accordance with the revised Procedures for the Development of Voluntary Product Standards (15 CFR Part 10). Section 10.0(b) of the Procedures specifies six criteria that must be met for the Department to sponsor the development or maintenance of a Voluntary Product Standard.

Numerous requests to retain or maintain various standards were received in response to the August 19, 1980, notice. A number of the requests specified retention of standards for fixed periods of time that have now elapsed. The current status of all such standards is indicated below.

Based on proposals from the proponent organizations identified after the following titles, the following product standards will continue to be sponsored by the Department:

PS 1-74, Construction and Industrial Plywood; American Plywood Association
PS 20-70, American Softwood Lumber Standard; American Lumber Standards Committee
PS 72-76, Toy Safety; Toy Manufacturers of America
PS 73-77, Carbonated Soft Drink Bottles; Glass Packaging Institute
TS 231, Proposed Voluntary Product Standard, Production of Carbonated Soft Drinks In Glass Bottles; National Soft Drink Association

Based on documented activity within a private standards-writing organization, the following standards will be retained by the National Bureau of Standards for the periods of time stated below to permit the orderly transfer of sponsorship of such standards from the Department to the identified organizations. The periods of time stated below shall commence from the date this notice is published in the Federal Register and supersede the periods of time stated for those standards in the August 19, 1980 notice.

PS 30-70, School Chalk; the Crayon, Water Color and Craft Institute, Inc.; 6 months
PS 36-70, Body Measurements for the Sizing of Boys' Apparel; Mail Order Association of America; 12 months
PS 42-70, Body Measurements for the Sizing of Women's Patterns and Apparel; Mail Order Association of America; 12 months
PS 45-71, Body Measurements for the Sizing of Apparel for Young Men (Students); Mail Order Association of America; 12 months
PS 46-71, Flame-Resistant Paper and Paperboard; American Society for Testing and Materials; 6 months
PS 51-71, Hardwood and Decorative Plywood; Hardwood Plywood Manufacturers Association; 12 months
PS 54-72, Body Measurements for the Sizing of Girls' Apparel; Mail Order Association of America; 12 months
PS 63-75, Latex Foam Mattresses for Hospitals; American Society for Testing and Materials; 12 months
PS 64-75, School Paste; The Crayon Water Color and Craft Institute, Inc.; 6 months
PS 65-75, Paints and Inks for Art Education in Schools; The Crayon, Water Color and Craft Institute, Inc.; 6 months
PS 67-76, Marking of Gold Filled and Rolled Gold Plate Articles Other Than Watchcases; Jewelers Vigilance Committee; 24 months
PS 68-76, Marking of Articles Made of Silver in Combination with Gold; Jewelers Vigilance Committee; 24 months
PS 69-76, Marking of Articles Made Wholly or in Part of Platinum; Jewelers Vigilance Committee; 2 months
PS 70-76, Marking of Articles Made of Karat Gold; Jewelers Vigilance Committee; 24 months
PS 71-76, Marking of Jewelry and Novelties of Silver; Jewelers Vigilance Committee; 24 months
CS 96-62, Artists Oil Paints; Artists Equity Association, Inc.; 6 months
CS 130-60, Color Materials for Art Education in Schools; the Crayon, Water Color and Craft Insitute, Inc.; 6 months
CS 151-50, Body Measurements for the Sizing of Apparel for Infants, Babies, Toddlers and Children (for the Knit Underwear Industry); Mail Order Association of America; 12 months
R 192-63, Crayons and Related Art Materials for School Use (Types, Sizes, Packages and Colors); The Crayon, Water Color and Craft Institute, Inc.; 6 months

The following standard has been replaced by a standard being developed or published by a private standards-writing organization and, therefore, Department of Commerce sponsorship is no longer need for it:

PS 17-69, Polyethylene-sheeting (construction, industrial and agricultural applications); Society of the Plastics Industry

In the absence of any request for retention or maintenance, the following standards are withdrawn:

PS 13-69, Uncorded Slab Urethane Foam for Bedding and Furniture Cushioning
PS 15-69, Custom Contact-Molded Reinforced Polyestyer Chemical-Resistant Process Equipment
PS 23-70, Horticultural Grade Perlite

OVER

PS 24–70, Melamine Dinnerware (Alpha-Cellulose Filled) for Household Use
PS 25–70, Heavy-Duty Alpha-Cellulose-Filled Melamine Tableware
PS 27–70, Mosaic-Parquet Harwood Slat Flooring
PS 29–70, Plastic Heat-Shrinkable Film
PS 31–70, Polystyrene Plastic Sheet
PS 34–70, Fluorinated Ethylene-Propylene (FEP) Plastic-Lined Steel Pipe and Fittings
PS 52–71, Polytetrafluorethylene (PTFE)
PS 53–72, Glass-Fiber Reinforced Polyester Structural Plastic Panels
PS 56–73, Structural Glued Laminated Timber
PS 57–73, Cellulosic Fiber Insulation Board
PS 58–73, Basic Hardboard
PS 59–73, Prefinished Hardboard Paneling
PS 60–73, Hardboard Siding
PS 62–74, Grading of Diamond Powder in Sub-Sieve Sizes
CS 138–55, Insect Wire Screening
CS 192–53, General Purpose Vinyl Plastic Film
CS 201–55, Rigid Polyvinyl Chloride Sheets
CS 227–59, Polyethylene Film
CS 245–62, Vinyl-Metal Laminates
CS 257–63, TFE–Fluorocarbon (Polytetrafluorethylene) Resin Molded Basic Shapes
CS 268–65, Hide-Trim Pattern for Domestic Cattlehides
CS 274–66, TFE-Fluorocarbon Resin Sintered Thin Coatings for Dry Film Lubrication
R2–62, Bedding Products and Components

In accordance with § 10.1(e) of the revised Procedures for the Development of Voluntary Product Standards and by agreement with the Consumer Product Safety Commission, the Department will retain sponsorship of the following Voluntary Product Standard for the period of time stated below to allow for arrangements to be made for its sponsorship by a private standards writing organization.

PS 66–75, Safety Requirements for Home Playground Equipment; 12 months

For further information contact Eric A. Vadelund, Office of Engineering Standards, National Bureau of Standards, Washington, D.C. 20234. Telephone: (301) 921–3272.

Dated: January 13, 1982.

Ernest Ambler,

Director.

[FR Doc. 82-1316 Filed 1-19-82; 8:45 am]

BILLING CODE 3510-13-M

National Bureau of Standards' Visiting Committee; Meeting

Pursuant to the Federal Advisory Committee Act, U.S.C. App., notice is hereby given that the National Bureau of Standards' Visiting Committee will meet on Thursday, February 25, 1982, from 9:00 a.m. to 1:50 p.m. in Lecture Room 1107, Radio Building, National Bureau of Standards, 325 Broadway, Boulder, Colorado, after which time the Visiting Committee members will meet with a number of NBS scientists in their various offices and laboratories until 4:30 p.m.

The NBS Visiting Committee is composed of five members prominent in the fields of science and technology and appointed by the Secretary of Commerce.

The purpose of the meeting is to review the efficiency of the Bureau's scientific work and the condition of its equipment in order to assist the Committee in reporting to the Secretary of Commerce as required by law.

The public is invited to attend, and the Chairman will entertain comments or questions at an appropriate time during the meeting.

Any person wishing to attend the meeting should inform Mrs. Carolyn Goodfellow, Office of the Director, National Bureau of Standards, Washington, DC 20234, telephone (301) 921–2226.

Dated: January 15, 1982.

Ernest Ambler,

Director.

[FR Doc. 82-1382 Filed 1-19-82; 8:45 am]

BILLING CODE 3510-13-M

National Conference on Weights and Measures; Meeting

Notice is hereby given that the interim meetings of the National Conference on Weights and Measures will be held January 25–29, 1982, at the National Bureau of Standards, Gaithersburg, Maryland.

The National Conference on Weights and Measures is an organization of weights and measures enforcement officials of the States, counties, and cities of the United States. The interim meetings of the Conference, as well as the annual meeting to be held next July (a notice will be published in the Federal Register prior to such meeting), brings together the enforcement officials, other government officials, and representatives of business, industry, trade associations, and consumer organizations for the purpose of hearing and discussing subjects that relate to the fields of weights and measures technology and administration.

Pursuant to authority in its Organic Act (15 U.S.C. 272(5)), the National Bureau of Standards acts as a sponsor of the National Conference on Weights and Measures in order to promote uniformity among the States in the complex of laws, regulations, methods, and testing equipment that comprises regulatory control by the States of commercial weighing and measuring.

The public is invited to attend. Additional information concerning the Conference program and arrangements may be obtained from Mr. Albert D. Tholen, Executive Secretary, National Conference on Weights and Measures, National Bureau of Standards, Washington, DC 20234; telephone: (301) 921–2401.

Dated: January 15, 1982.

Ernest Ambler,

Director.

[FR Doc. 82-1428 Filed 1-19-82; 8:45 am]

BILLING CODE 3510-13-M

DEPARTMENT OF DEFENSE

Department of the Air Force

USAF Scientific Advisory Board; Meeting

The USAF Scientific Advisory Board Ad Hoc Committee on Command, Control and Communications Countermeasures (C³CM) Data Base will hold meetings on February 18, 1982, from 8:00 a.m., to 5:00 p.m., and February 19, 1982, from 8:00 a.m., to 12:00 noon, in the Electronic Security Command Conference Room, Building 2000, Kelly Air Force Base, Texas.

The ad hoc committee will hold classified discussions on (1) the overall systems analysis which is the keystone of the C³CM data base problem; (2) the design and sizing of the data processing resources, and (3) the interface with existing source data bases maintained by the intelligence and operational communities and with user systems for target applications.

The meetings concern matters listed in section 552b(c), Title 5, United States Code, specifically subparagraph (1) thereof, and accordingly the meetings are closed to the public.

For further information, contact the Scientific Advisory Board Secretariat at (202) 697–8404.

Winnibel F. Holmes,

Air Force Federal Register Liaison Officer.

[FR Doc. 82-1367 Filed 1-19-82; 8:45 am]

BILLING CODE 3910-01-M

DEPARTMENT OF ENERGY

Office of Assistance Secretary for International Affairs

International Atomic Energy Agreements; Civil Uses; Proposed Subsequent Arrangement Between U.S. and Australia

Pursuant to section 131 of the Atomic Energy Act of 1954, as amended (42

COMMERCIAL STANDARD CS 257-63

TFE-Fluorocarbon (Polytetrafluoroethylene) Resin Molded Basic Shapes

A recorded voluntary standard of the trade published by the U.S. Department of Commerce

For sale by the Superintendent of Documents
U.S. Government Printing Office, Washington, D.C. 20402 Price 10 cents

U.S. DEPARTMENT OF COMMERCE

OFFICE OF TECHNICAL SERVICES

Commodity Standards Division

With the cooperation of the
National Bureau of Standards

EFFECTIVE DATE

Having been passed through the regular procedures of the Commodity Standards Division, and approved by the acceptors hereinafter listed, this Commercial Standard is issued by the U.S. Department of Commerce, effective August 15, 1963.

LUTHER H. HODGES, *Secretary.*

COMMERCIAL STANDARDS

Commercial Standards are developed by manufacturers, distributors, and users in cooperation with the Commodity Standards Division of the Office of Technical Services and with the National Bureau of Standards. Their purpose is to establish quality criteria, standard methods of test, rating, certification, and labeling of manufactured commodities, and to provide uniform bases for fair competition.

The adoption and use of a Commercial Standard is voluntary. However, when reference to a Commercial Standard is made in contracts, labels, invoices, or advertising literature, the provisions of the standard are enforcible through usual legal channels as a part of the sales contract.

Commercial Standards originate with the proponent industry. The sponsors may be manufacturers, distributors, or users of the specific product. One of these three elements of industry submits to the Commodity Standards Division the necessary data to be used as the basis for developing a standard of practice. The division by means of assembled conferences or letter referenda, or both, assists the sponsor group in arriving at a tentative standard of practice and thereafter refers it to the other elements of the same industry for approval or for constructive criticism that will be helpful in making any necessary adjustments. The regular procedure of the division assures continuous servicing of each Commercial Standard through review and revision whenever, in the opinion of the industry, changing conditions warrant such action.

SIMPLIFIED PRACTICE RECOMMENDATIONS

Under a similar procedure the Commodity Standards Division cooperates with industries in the establishment of Simplified Practice Recommendations. Their purpose is to eliminate avoidable waste through the establishment of standards of practice for sizes, dimensions, varieties, or other characteristics of specific products; to simplify packaging practices; and to establish simplified methods of performing specific tasks.

The initial printing of CS257–63 was made possible through the cooperation of The Fluorocarbons Division of The Society of the Plastics Industry, Inc.

ERRATA

COMMERCIAL STANDARD CS257-63

TFE-Fluorocarbon (Polytetrafluoroethylene)
Resin Molded Basic Shapes

These errata form part of Commercial Standard CS257-63. All copies of the standard should include the following corrections:

Page 6.--6.1 Identification.--The identification statement should read:

> These shapes molded from TFE Fluorocarbon Resins meet the requirements of Commercial Standard CS257-63, Grade_____, as developed by the industry under Commodity Standards Procedures, and issued by the United States Department of Commerce.

or, more briefly:

> Conforms to CS257-63, Grade ____, as developed by the industry and issued by the United States Department of Commerce.

Page 10.--Acceptors. Add the following organizations:

Reid Enterprises, Inc., Long Beach, Calif.
R & R Industries, Inc., Rockville, Md.
Tektronix, Inc., Beaverton, Oreg.

COMMODITY STANDARDS DIVISION
OFFICE OF TECHNICAL SERVICES
U.S. DEPARTMENT OF COMMERCE

August 20, 1963

51254-U.S. Dept. of Comm-DC-1963

TFE-Fluorocarbon (Polytetrafluoroethylene) Resin Molded Basic Shapes

[Effective August 15, 1963]

1. PURPOSE

1. The purpose of this Commercial Standard is to establish a national standard of quality for the information and guidance of producers, distributors and users; to promote understanding between buyers and sellers; to provide a basis for fair competition among producers of high-quality products; to give the consumer confidence in the quality of the product, and to provide means for identifying basic shapes molded from polytetrafluoroethylene (referred to herein as TFE-Fluorocarbon Resins for Molded Basic Shapes or Moldings).

2. SCOPE AND CLASSIFICATION

2.1 **Scope.**—This standard establishes requirements and methods of test for the material, dimensions, workmanship, and the physical and electrical properties of the two grades of molded basic shapes, furnished in units 12 inches or less in the dimension parallel to the direction of the applied molding pressure. Molded rods covered by this standard shall have dimensions ¾ inch or greater and molded tube wall thicknesses ½ inch or greater. Methods of marking and indicating compliance with this standard are included.

2.2 **Classification.**—This standard covers two grades of moldings as follows:

Grade A—Premium
Grade B—General Purpose

2.3 **Definitions:**

Grade A—A premium grade molding having maximum physical and electrical properties to meet rigid requirements.

Grade B—A general purpose molding for electrical, mechanical and chemical applications not requiring the premium grade.

3. REQUIREMENTS

3.1 **Material.**—The moldings shall be made from unpigmented TFE-fluorocarbon resins as free of foreign matter as is commercially practicable.

3.2 **Color.**—The color of the moldings may vary from white to mottled gray or brown. Small gray, brown or black spots shall not be considered as cause for rejection.

3.3 **Finish.**—The moldings shall be as free as is commercially practicable from surface blisters, wrinkles, cracks, and other surface defects that might affect their serviceability.

3.4 **Internal defects.**—The moldings shall be as free as is commercially practicable of voids, cracks and foreign inclusions (See 4.4.5). Radiographic inspection by the manufacturer shall be required only when specified in the contract or order.

3.5 **Dimensions and tolerances.**—Size, shape, dimensional tolerances and dimensional stability shall be as specified in the contract or order. (See explanatory paragraph A2 on Dimensional Stability, Appendix A.)

3.6 **Physical and electrical requirements.**—The basic shapes covered by this standard shall meet the physical and electrical requirements specified in Table I and 3.6.1 when tested by the methods given in Section 4.

TABLE I.—*Physical and electrical requirements for basic shapes*

Grade	Tensile strength [1] (min. average)	Elongation [1] (min. average)	Dielectric strength [2] (min. average)	Specific gravity [3]
	PSI	*Percent*	*Volts per mil*	
A	4000	300	1000	2.14—2.20
B	3000	200	750	2.14—2.19

[1] See 4.4.1
[2] See 4.4.2
[3] See 4.4.3

3.6.1 **Melting point.**—The melting point for both grades of moldings shall be 327° ±10° C when tested in accordance with 4.4.4.

4. TEST METHODS

4.1 **Sampling.**—Samples of the moldings sufficient to determine conformance of the material with this standard shall be taken at random from each lot of manufactured material. A lot shall consist of all moldings of the same size or shape delivered at the same time. One set of test specimens as prescribed in the test methods shall be considered sufficient for testing each lot of moldings. The average result of the specimens tested shall conform to the requirements prescribed in this standard.

4.2 **Specimen preparation, conditioning and test conditions.**

4.2.1 **Preparation.**—Specimens shall be prepared by cutting sufficient slices from the end of the molding to provide the number of test specimens required in 4.4.1 and 4.4.2. If the end of the molding has not been previously machined, the end slice shall be discarded. Slices for tensile and elongation specimens shall be 0.031″ ±0.002″ thick, and for dielectric strength 0.020″ ±0.002″ thick.

4.2.2 **Conditioning.**—When required, the test specimens shall be conditioned in accordance with Procedure A of ASTM Designation D618–61,[1] Standard Methods of Conditioning Plastics and Electrical Insulation Materials for Testing, for a period of at least four hours prior to test.

[1] Later issues of the ASTM publications specified in this standard may be used providing the requirements are applicable and consistent with the issues designated. Copies of ASTM publications are obtainable from the American Society for Testing and Materials, 1916 Race Street, Philadelphia 3, Pa.

4.2.3 Tests shall be conducted at the standard laboratory temperatures of 23° C ± 1° C (73.4° F ± 1.8° F). Since moldings of TFE do not absorb water, the maintenance of a constant specified relative humidity is not required.

4.3 **Visual and dimensional inspection.**—The moldings shall be visually and dimensionally inspected to verify their compliance with the requirements specified in this standard.

4.4 **Tests.**

4.4.1 **Tensile strength and elongation.**—The ultimate tensile strength and elongation shall be determined in accordance with ASTM Designation D638–61 T,[1] Tentative Method of Test for Tensile Properties of Plastics, except as follows:

1. Five microspecimens shall be cut to dimensions shown in ASTM Designation D1457–56T,[1] Tentative Specifications for Tetrafluoroethylene Resin Molding and Extrusion Materials with the steel rule die shown in Figure 1, using a hydraulic or mechanical press. When cutting a specimen, it shall be backed by a hard surface board such as Masonite or equal with a piece of thin cardboard such as that used in a tabulating machine between the hard surface and sample. Any tool marks, resulting from sample preparation, which are not essentially parallel to the long axis of the specimen shall be removed by light sanding in a direction parallel to such long axis.
2. Specimen thickness shall be 0.031±0.002 inch.
3. Testing speed shall be 2 inches per minute.
3. Elongation shall be determined by using an initial jaw separation of 0.875±0.005 inch and shall be based on total separation.

4.4.1.1 **Alternate specimens.**—When the shape of the sample does not permit making the dumbbell as specified in 4.4.1, specimens may be prepared by turning a 1/32 inch thick-walled tube from the shape, and cutting dumbbells from the tube wall in a direction perpendicular to the applied molding pressure, i.e., with the long axis of the dumbbell parallel to the circumference of the tube. The tube shall be lathe-turned in such a manner that the specimen is taken from the center of the original wall thickness. In the case of a rod, reduce the diameter by 1/16 inch before finish turning the outer diameter of the tube. Both inside and outside surfaces shall be turned with a fine lathe feed and sharp tools to permit the smoothest possible finish.

4.4.2 **Dielectric strength.**—The dielectric strength shall be determined in accordance with ASTM Designation D149–61,[1] Standard Methods of Test for Dielectric Breakdown Voltage and Dielectric Strength of Electrical Insulating Materials at Commercial Power Frequencies using 5 specimens and the short time test under oil, except as follows:

1. Wherever possible, the specimens shall be 1 inch diameter discs 0.020±0.002 inches thick, cut with a hollow punch, or 1 inch wide strips if the test cell permits. When 1 inch specimens are used, the electrodes shall be 1/4 inch in diameter, with edges rounded to a 1/32 inch radius.
2. If the size of the molding does not permit 1 inch wide specimens, 1/2 inch discs or strips 0.020±0.002 inch thick may be used with 1/16 inch diameter electrodes with rounded edges.

4.4.3 **Specific gravity.**—The specific gravity shall be determined on two specimens in accordance with Method A of ASTM Designation D792–60T,[1] Tentative Methods of Test for Specific Gravity and Density of Plastics. Two drops of a wetting agent [2] (liquid detergent) shall be added to the water in order to reduce the surface tension and insure complete wetting of the sample. The gradient tube method ASTM Designation D1505–60T,[1] Tentative Method of Test for Density of Plastics by the Density-Gradient Technique, may be used as an alternate on three specimens.

4.4.4 **Melting point.**—The melting point shall be determined on one specimen in accordance with ASTM Designation D1457–56T[1], Tentative Specification for Tetrafluoroethylene Resin Molding and Extrusion Materials.

4.4.5 **Internal defects.**

4.4.5.1 The general procedure of ASTM Designation E94–52T[1], Tentative Recommended Practice for Radiographic Testing, shall be followed for the examination for internal defects.

4.4.5.2 The shape shall be X-rayed in as many views as necessary to give complete coverage of the pieces. All X-ray film shall be identified to correspond with the shape sections, or view, so that any defects may be located afterward.

4.4.5.3 The films shall be viewed for defects such as microscopic cracks, voids and inclusions. Films showing apparent defects shall be checked against the corresponding specimen and position to make sure that these apparent defects are not due to surface contamination.

5. PACKING

5.1 The TFE shapes shall be packed in such a manner as to provide reasonable protection against damage in ordinary handling and transportation.

6. IDENTIFICATION AND MARKING

6.1 **Identification.**—Marking shall show the grade of molded basic shapes. In order that the purchaser may be assured that the shapes molded from the TFE Fluorocarbon Resins actually comply with all requirements of this Commercial Standard, it is recommended that manufacturers include the following statement in conjunction with their name and address on labels, invoices, sales literature, etc.:

These shapes molded from TFE Fluorocarbon Resins meet the requirements of Conforms to CS257–63, Grade , as developed by the industry and issued by the the Commodity Standards Procedures, and issued by the United States Department of Commerce.

or, more briefly:

Commercial Standard CS257–63, Grade , as developed by the industry under United States Department of Commerce.

HISTORY OF PROJECT

In a letter dated August 18, 1960, the Society of the Plastics Industry, Inc., requested the cooperation of the Commodity Standards

[2] "Joy", "Glim" or Triton X–100 (Rohm & Haas) have been found satisfactory for the purpose.

Division in the establishment of a Commercial Standard for TFE-Fluorocarbon (Polytetrafluoroethylene) Resin Molded Basic Shapes, and submitted as a basis a tentative standard developed by the Fluorocarbon Division of that organization.

The Commodity Standards Division circulated copies of the proposed Commercial Standard to representative producers, distributors, users, laboratories, and Government agencies for constructive comment. All comments and suggestions received were carefully considered and adjustments were made to the proposal to satisfy the comment wherever practicable. The recommended Commercial Standard, TS–5623, was circulated to the trade on February 28, 1963.

On June 10, 1963, the Commodity Standards Division announced that acceptances had been received representing a satisfactory majority of the industry, and the Commercial Standard to be designated CS257–63, would be considered effective beginning August 15, 1963.

Project manager: D. R. Stevenson, Commodity Standards Division, Office of Technical Services

Technical adviser: Dr. G. M. Kline, Chief, Organic and Fibrous Materials Division, National Bureau of Standards.

STANDING COMMITTEE

The following individuals comprise the membership of the Standing Committee, which is to review, prior to circulation for acceptance, revisions proposed to keep the standard abreast of progress. Comment concerning the standard and suggestions for revision may be addressed to any member of the committee or to the Commodity Standards Division, Office of Technical Services, U.S. Department of Commerce, which acts as secretary for the committee.

M. M. Main, Crane Packing Co., 6400 Oakton St., Morton Grove, Ill. (Chairman)
Benjamin M. Walker, Avco Corp., RAD Division, 900 Chelmsford St., Lowell, Mass.
Saul Ricklin, Dixon Corp., Bristol, Rhode Island
Charles M. Starkey, Sparta Manufacturing Co., P.O. Box 107, Dover, Ohio
J. H. Maston, The Anchor Packing Co., 401 N. Broad St., Philadelphia 8, Pa.
R. E. Huffman, Plastic and Rubber Products Co., 2100 Hyde Park Blvd., Los Angeles 47, Calif.

APPENDIX A

A1. The following information on properties and test methods is provided for general use and does not constitute a requirement of this Commercial Standard.

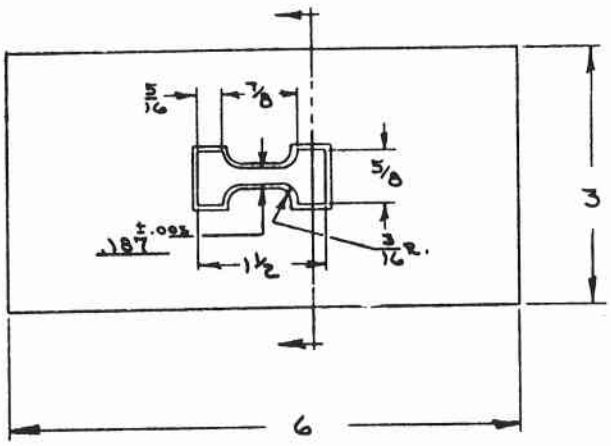
A2. **Dimensional stability.**—Basic shapes molded from TFE Fluorocarbon Resins as normally processed will contain internal stresses. The magnitude of these stresses will vary with the thickness. These stresses may result in dimensional changes when parts cut therefrom are heated or machined. Annealing the shapes may relieve some of the stresses and may distort the surface and flatness of the shapes. However, this stress-relief treatment is only partially effective. The magnitude of the residual stresses is not uniform throughout and varies with the size. It is clear that no amount of annealing will insure complete stability in the final product. The best dimensional stability in a finished product can only be accomplished by carrying out a stress-relief procedure on a finished part after all cutting operations are complete. For close tolerances on a finished part, the best procedure is to fabricate to approximate dimensions, stress relieve and then finish to specified dimensions.

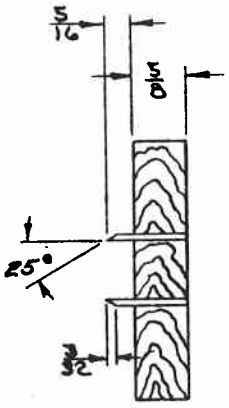
A3. **Properties.**—Approximate values for the mechanical, physical and chemical properties of parts molded from TFE Fluorcarbon resins are given in Table A1.

TABLE A1.—*Mechanical, physical and chemical properties.*

Property	Value	Test Method (ASTM designation)
Dissipation Factor 1000 cycles.	0.0005 max	D150—59T—A-C Capacitance, Dielectric Constant and Loss Characteristics of Electrical Insulating Materials (Tentative).
Dielectric Constant 1000 cycles.	2.0 to 2.1	D150—59T
Volume resistivity	Over 10^{16} ohm-cm	D257—61— Electrical Resistance of Insulating Materials.
Surface Resistivity 100% R.H.	3.6×10^{6} megohms	D257—61
Stiffness, 73° F	50,000–90,000 psi	D747—58T—Stiffness in Flexure of Plastics.
Compressibility	16–22%	D1147-61T—Compressibility and Recovery of Gasket Materials.
Hardness, Durometer D	50–65	D676-59T— Indentation of Rubber by means of a Durometer.
Impact Strength:		
−70° F	2.0 ft. lbs./in. of notch	D256-56— Impact Resistance of Plastics and Electrical Insulating Materials.
73° F	3.0 ft. lbs./in.	
170° F	6.0 ft. lbs./in.	
Coefficient of Linear Thermal Expansion:		D696-44— Coefficient of Linear Thermal Expansion of Plastics.
77° F to −148° F	6.20×10^{-5}	
77° F to −58° F	7.50×10^{-5}	
77° F to 32° F	11.10×10^{-5}	
77° F to 212° F	6.90×10^{-5}	
77° F to 482° F	9.70×10^{-5}	
77° F to 572° F	12.10×10^{-5}	
Deformation Under Load:		D621-59— Deformation of Plastics Under Load.
73° F/1000 psi/24 hr	2–3%	
122° F/1200 psi/24 hr	4–8%	
Thermal Conductivity 0.18 in. thick specimen.	1.7 BTU/hr/sq Ft/°F/in. Cenco-Fitch.	
Water Absorption	0.01%	D570-59T— Water Absorption of Plastics.
Flammability	nonflammable	D635-56T— Flammability of Rigid Plastics Over 0.050 in. in Thickness (Tentative).
Static Coefficient of Friction, 20 lb. load.	0.04	
Chemical Resistance	Inert to almost all chemicals and solvents.	

Steel Rule Die





NOTES

1. Dimensions of die openings are inside dimensions.
2. Die to be sharpened on outside edge only.
3. All dimensions are in inches.

Test Specimen

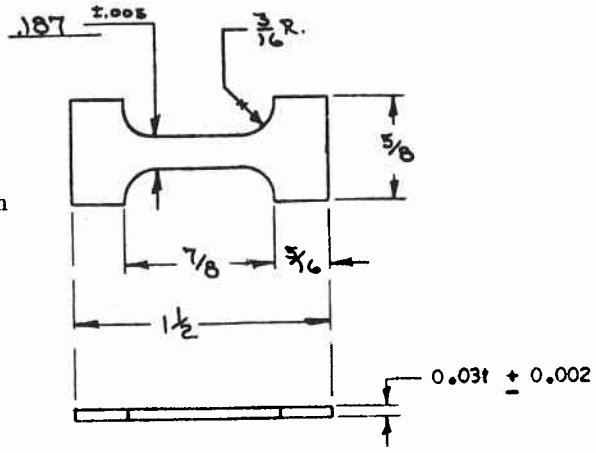


Figure 1.—Tensile Test Specimen and Die

ACCEPTORS

The manufacturers, distributors, users and other listed below have individually indicated in writing their acceptance of this Commercial Standard prior to its publication. The acceptances indicate an intention to utilize the standard as far as practicable, but reserve the right to depart from it as may be deemed desirable. The list is published to show the extent of recorded public support for the standard and should not be construed as indicating that all products made by the acceptors actually comply with the requirements.

Products that meet all requirements of the standard may be identified as such by a certificate, grade mark, or label. Purchasers are encouraged to require such specific representation of compliance, which may be given by the manufacture whether or not he is an acceptor.

ASSOCIATIONS

American Institute of Architects, Washington, D.C.

FIRMS

Accurate Felt & Gasket Mfg. Co., Chicago, Ill.
Admiral Corp., Chicago, Ill.
AGC, Inc., South Meriden, Conn.
Aircraft-Missiles Div., Fairchild Stratos Corp., Hagerstown, Md.
Aldrich Pump Co., Allentown, Pa.
Allegheny Plastics Inc., Coraopolis, Pa.
Allen B. Dumont Laboratories Divisions, Fairchild Camera & Instrument Corp., Clifton, N.J.
Allis-Chalmers Mfg. Co., Milwaukee, Wis.
American Durafilm Co., Inc., Newton Lower Falls, Mass.
American Standards Testing Bureau, Inc., New York, N.Y.
Anchor Packing Co., Philadelphia, Pa.
Avco-Rad, Wilmington, Mass.

Beemer Engineering Co., Ft. Washington, Pa.
Bendix Corp., Red Bank Div. Eatonton, N.J.
Bendix Products Aerospace Division, South Bend, Ind.

Cabral Motors Inc., Los Gatos, Calif.
Cadillac Plastic & Chemical Co., Cincinnati, Ohio
California Testing Laboratories, Los Angeles, Calif.
Canadian Industries, Ltd., Montreal, Quebec, Canada
Chase Sales Co., Hayward, Calif.
Chemical Coatings & Engineering Co., Inc., Media, Pa.
Chemplast, Inc., East Newark, N.J.
Chicago Allis Mfg. Corp., Chicago, Ill.
Chicago Gasket Co., Chicago, Ill.
Coronado Plastics, Inc., Paramount, Calif.
Crane Packing Co., Morton Grove, Ill.

Dahl, Geo. W., Co., Inc., Bristol, R.I.
Davco Industries, Inc., Framingham, Mass.
Dilectrix Corp., Farmingdale, N.Y.
Dixon Corp., Bristol, R.I.
Dodge Fibers Corp., Hoosick Falls, N.Y.

Eastern Industries Division, Laboratory for Electronics, Inc., Hamden, Conn.
ECO Engineering Co., Newark, N.J.
E. I. DuPont de Nemours, Inc., Plastics Dept. Wilmington, Del.
Enflo Corp., Maple Shade, N.J.
Ethylene Corp., Murray Hill, N.J.
Elliff Eng. & Mfg. Co., Inc., Paramount, Calif.
Flick-Reedy Corp., Miller Fluid Power Div., Bensenville, Ill.

Fluoro-Plastics Inc., Philadelphia, Pa.
FXR Div. of Amphenol-Borg Electronics Corp., Chicago, Ill.

General Radio Co., W. Concord, Mass.
GPL Division, General Precision Aerospace, Pleasantville, N.Y.
Greene, Tweed & Co., North Wales, Pa.

Hoke Incorporated, Cresskill, N.J.
Houdaille Industries, Inc., Buffalo Hydraulics Division, Buffalo, N.Y.

IBM Corp., White Plains, N.Y.
International Pipe & Ceramics Corp., Emmaus, Pa.

Jamco-Western, Inc., Van Nuys, Calif.

Lewis Engineering Co., Naugatuck, Conn.
Librascope Division, Information Systems Group, General Precision, Inc., Glendale, Calif.

Manson Laboratories, Inc., Stamford, Conn.
Molecular Dielectrics, Inc., Clifton, N.J.
Modern Industrial Plastics Division, Duriron Co., Dayton, Ohio

Package Machinery Co., East Longmeadow, Mass.
Packard Electric Division, General Motors Corp., Warren, Ohio
Patzig Testing Laboratories, Inc., Des Moines, Iowa
Permacel, New Brunswick, N.J.
Pittsburgh Testing Laboratory, Pittsburgh, Pa.
Plastics and Rubber Products Co., Los Angeles, Calif.
Plastic Fabricators, Inc., Wilmington, Del.

Radio Corporation of America, Camden, N.J.
Raybestos-Manhattan, Inc., Plastics Products Division, Manheim, Pa.
Read Plastics, Inc., Washington, D.C.
Republic Aviation Corporation, Farmingdale, L.I., N.Y.
Rockbestos Wire & Cable Co., Division of Cerro Corporation, New Haven, Conn.
Resistoflex Corporation, Roseland, N.J.

S & S Manufacturing Co., Rahway, N.J.
Scranton Plastic Laminating Corp., Scranton, Pa.
Sealectro Corp., Mamaroneck, N.Y.
Sealol, Inc., Providence, R.I.
Severna Plastics, Inc., East Orange, N.J.
Simplex Mfg. Co., Inc., Auburn, N.Y.
Southern Testing Laboratories, Inc., Birmingham, Ala.
Sparta Mfg. Co., Div. U.S. Ceramic Tile Co., Dover, Ohio
Stokes Molded Products Division, Trenton, N.J.
Stancor Electronics, Inc., Chicago Ill.

Thompson Ramo Wooldridge Inc., Cleveland, Ohio
Timely Technical Products Inc., Div. The Fluorocarbon Co., Pine Brook, N.J.

Titeflex, A Division of Atlas Corp., Springfield, Mass.
Toefco Engineering, Inc., Niles, Mich.
Tube-Kote, Inc., Houston, Tex.
Twin City Testing & Engineering Laboratory, Inc., St. Paul, Minn.
Twining Laboratories, Inc., Fresno, Calif.

United Engineers Division of Black, Sivalls & Bryson, Tulsa, Okla.

United States Gasket Co., Plastics Division, The Garlock Packing Co., Camden, N.J.
Zenith Radio Corp., Chicago, Ill.

U.S. GOVERNMENT

Health, Education, and Welfare, Department of, Washington, D.C.
Naval Air Engineering Center, Philadelphia, Pa.
Veterans Administration, Washington, D.C.

ACCEPTANCE OF COMMERCIAL STANDARD CS257-63

TFE-Fluorocarbon (Polytetrafluoroethylene) Resin Molded Basic Shapes

If acceptance has not previously been filed, this sheet properly filled in, signed, and returned will provide for the recording of your organization as an acceptor of this Commercial Standard.

Date_____

Commodity Standards Division
Office of Technical Services
U. S. Department of Commerce
Washington 25, D. C.

Gentlemen:

We believe that this Commercial Standard constitutes a useful standard of practice, and we individually plan to utilize it as far as practicable in the

production[1] distribution[1] purchase[1] testing[1]

of this commodity.

We reserve the right to depart from the standard as we deem advisable.

We understand, of course, that only those articles which actually comply with the standard in all respects can be identified or labeled as conforming thereto.

(Cut on this line)

Signature of authorized officer_____
(In ink)

(Kindly typewrite or print the following lines)

Name and title of above officer_____

Organization _____
(Fill in exactly as it should be listed)

Street address_____

City, zone, and State _____

[1] Underscore the applicable words. Please see that separate acceptances are filed for all subsidiary companies and affiliates which should be listed separately as acceptors. In the case of related interest, trade associations, trade papers, etc., desiring to record their general support, the words "General support" should be added after the signature.

WITHDRAWN

TO THE ACCEPTOR

The following statements answer the usual questions arising in connection with the acceptance and its significance:

1. *Enforcement.*—Commercial Standards are commodity specifications voluntarily established by mutual consent of those concerned. They present a common basis of understanding between the producer, distributor, and consumer and should not be confused with any plan of governmental regulation or control. The United States Department of Commerce has no regulatory power in the enforcement of their provisions, but since they represent the will of the interested groups as a whole, their provisions through usage soon become established as trade customs, and are made effective through incorporation into sales contracts by means of labels, invoices, and the like.

2. *The acceptor's responsibility.*—The purpose of Commercial Standards is to establish, for specific commodities, nationally recognized grades or consumer criteria, and the benefits therefrom will be measurable in direct proportion to their general recognition and actual use. Instances will occur when it may be necessary to deviate from the standard and the signing of an acceptance does not preclude such departures; however, such signature indicates an intention to follow the standard, where practicable, in the production, distribution, or consumption of the article in question.

3. *The Department's responsibility.*—The major function, performed by the Department of Commerce in the voluntary establishment of Commercial Standards on a nationwide basis is fourfold: First, to act as an unbiased coordinator to bring all interested parties together for the mutually satisfactory adjustment of trade standards; second, to supply such assistance and advice as past experience with similar programs may suggest; third, to canvass and record the extent of acceptance and adherence to the standard on the part of producers, distributors, and users; and fourth, after acceptance, to publish and promulgate the standard for the information and guidance of buyers and sellers of the commodity.

4. *Announcement and promulgation.*—When the standard has been endorsed by a satisfactory majority of production or consumption in the absence of active, valid opposition, the success of the project is announced. If, however, in the opinion of the standing committee or of the Department of Commerce, the support of any standard is inadequate, the right is reserved to withhold promulgation and publication.

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